

Work Order ID 137296

137296

Page 1

Thursday, September 24, 2015 1:30:00 PM

Item ID: D407-558-045 Accept *N900040100* Setup Start *NS1*
Revision ID: Stop *NS2*
Item Name: Single Mirror Installation
Start Date: 9/18/15 Start Qty: 1.00 *1* Cust Item ID:
Required Date: 9/23/15 Req'd Qty: 1.00 *1* Customer:
Reference:

Approvals: Process Plan: MLS Date: SEP 25 2015 Tooling: _____ Date: _____
QC: _____ Date: _____ SPC (Y/N): _____ Date: _____
Run Start *NR1*
Stop *NR2*

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
Draw Nbr	Revision Nbr								
IIN 206-558	REV D								
100		0.00							DAS 02 9-89
100	DOCUMENT CONTROL								
DC	Memo	0.00							
Doc.Control -USB or Paperwork	Photocopy bluefile and type labels as per PPP D407-558-045 CHG003								OCT 07 2015
110		0.00							
110	Small Fab								
Small Fab	Memo	0.01							
Small Fab	Assemble as per Dwg D206-558								OCT 06 2015
120		0.00							
120	QC5- Inspect part completeness to step on W/O								
QC	Memo	0.00							
Quality Control									DAS 38 9-89

(1)

OCT 07 2015

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐					
Date :		Step #:		QTY Effective :			MRB (QSI042) Approval Completed By Lead hand / Supervisor Approval Verification QC / QA Coordinator Approval		
Description Work Order Deviation				Disposition					

Root Cause				FAULT CATEGORY							
Environment	☐	No Re-verification	☐	Pressure/Forced	☐	Temperature/Cure	☐	Power Loss/Surge	☐	Positioned Wrong	☐
Design	☐	Operator	☐	Bending	☐	Set-up	☐	Folio/Program	☐	Outside Dimensions	☐
Doc/Data	☐	Offset/Setup	☐	Centre Not Concentric	☐	BOM/Route	☐	Grain	☐	Over/Under tolerance	☐
Equip/Tooling	☐	Supplier	☐	Cracks	☐	Broken/Damage/Defect	☐	Weld	☐	Part Incorrect	☐
Handling/Pre	☐	Training	☐	Crimp/Kink/Ripple/Wave	☐	Inspection Incomplete/Unqualified	☐	Wrong Stock Pulled	☐	Part Lost/Missing	☐
Material	☐	Use for Testing	☐	Cuffs	☐	Contamination	☐	Out of Sequence	☐	Part Moved	☐
Internal Transport	☐	Poor Information	☐	Crushing	☐	Countersink	☐	Off-set	☐	Drawing	☐
Tribal Knowledge	☐	Rushing	☐	Heat Treat	☐	Cut Too Short	☐	Mislabeled	☐	Finish	☐
LOA	☐	Product Improvement	☐	Wave/Twist in Tube	☐	Instructions Incomplete/Unclear	☐	Fit/Function	☐	Misread	☐
Substation	☐	Process Improvement	☐	Marks/Chatter	☐	Drill Holes	☐	Misaligned/off center	☐	Turning Sequence	☐
Past Expiry Date	☐	Manufacturing Process	☐	OTHER :							
Misidentified	☐	Past Due	☐								

Work Order ID 137296

137296

Page 2

Thursday, September 24, 2015 1:30:00 PM

Item ID: D407-558-045 Accept *N900040100* Setup Start *NS1*
 Revision ID: Stop *NS2*
 Item Name: Single Mirror Installation
 Start Date: 9/18/15 Start Qty: 1.00 *1* Cust Item ID:
 Required Date: 9/23/15 Req'd Qty: 1.00 *1* Customer:
 Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____ Run Start *NR1*
 QC: _____ Date: _____ SPC (Y/N): _____ Date: _____ Stop *NR2*

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
125	Pick Kit	0.00							
125									
Packaging	Memo	0.00							
Packaging									
130	QC4- 100% Inspect kits for completeness	0.00							
130									
QC	Memo	0.00							
Quality Control									
140	Packaging	0.00							
140									
Packaging	Memo	0.00							
Packaging	Identify and pack for shipping as per PPP D407-558-045 LOCATION: FG011								

OCT 07 2015

DAS
03
9-89

DAS
02
9-89

OCT 07 2015

DAS
02
9-89

OCT 07 2015

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐					
Date :		Step #:		QTY Effective :			MRB (QSI042) Approval Completed By Lead hand / Supervisor Approval Verification QC / QA Coordinator Approval		
Description Work Order Deviation				Disposition					
Root Cause		FAULT CATEGORY							
Environment ☐	No Re-verification ☐	Pressure/Forced ☐	Temperature/Cure ☐	Power Loss/Surge ☐	Positioned Wrong ☐				
Design ☐	Operator ☐	Bending ☐	Set-up ☐	Folio/Program ☐	Outside Dimensions ☐				
Doc/Data ☐	Offset/Setup ☐	Centre Not Concentric ☐	BOM/Route ☐	Grain ☐	Over/Under tolerance ☐				
Equip/Tooling ☐	Supplier ☐	Cracks ☐	Broken/Damage/Defect ☐	Weld ☐	Part Incorrect ☐				
Handling/Pre ☐	Training ☐	Crimp/Kink/Ripple/Wave ☐	Inspection Incomplete/Unqualified ☐	Wrong Stock Pulled ☐	Part Lost/Missing ☐				
Material ☐	Use for Testing ☐	Cuffs ☐	Contamination ☐	Out of Sequence ☐	Part Moved ☐				
Internal Transport ☐	Poor Information ☐	Crushing ☐	Countersink ☐	Off-set ☐	Drawing ☐				
Tribal Knowledge ☐	Rushing ☐	Heat Treat ☐	Cut Too Short ☐	Mislabeled ☐	Finish ☐				
LOA ☐	Product Improvement ☐	Wave/Twist in Tube ☐	Instructions Incomplete/Unclear ☐	Fit/Function ☐	Misread ☐				
Substation ☐	Process Improvement ☐	Marks/Chatter ☐	Drill Holes ☐	Misaligned/off center ☐	Turning Sequence ☐				
Past Expiry Date ☐	Manufacturing Process ☐	OTHER : _____							
Misidentified ☐	Past Due ☐								

Work Order ID 137296

137296

Page 3

Thursday, September 24, 2015 1:30:00 PM

Item ID: D407-558-045 Accept *N900040100* Setup Start *NS1*
Revision ID: Stop *NS2*
Item Name: Single Mirror Installation
Start Date: 9/18/15 Start Qty: 1.00 *1* Cust Item ID:
Required Date: 9/23/15 Req'd Qty: 1.00 *1* Customer:
Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____ Run Start *NR1*
QC: _____ Date: _____ SPC (Y/N): _____ Date: _____ Stop *NR2*

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
150	QC21 - Final Inspection - Work Order Release	0.00							
150									
QC	Memo	0.00							
Quality Control									

123151007

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐					
Date :		Step #:		QTY Effective :			MRB (QSI042) Approval Completed By _____ Lead hand / Supervisor Approval Verification _____ QC / QA Coordinator Approval _____		
Description Work Order Deviation				Disposition					

Root Cause				FAULT CATEGORY			
Environment ☐	☐	No Re-verification	☐	Pressure/Forced	☐	Temperature/Cure	☐
Design ☐	☐	Operator	☐	Bending	☐	Set-up	☐
Doc/Data ☐	☐	Offset/Setup	☐	Centre Not Concentric	☐	BOM/Route	☐
Equip/Tooling ☐	☐	Supplier	☐	Cracks	☐	Broken/Damage/Defect	☐
Handling/Pre ☐	☐	Training	☐	Crimp/Kink/Ripple/Wave	☐	Inspection Incomplete/Unqualified	☐
Material ☐	☐	Use for Testing	☐	Cuffs	☐	Contamination	☐
Internal Transport ☐	☐	Poor Information	☐	Crushing	☐	Countersink	☐
Tribal Knowledge ☐	☐	Rushing	☐	Heat Treat	☐	Cut Too Short	☐
LOA ☐	☐	Product Improvement	☐	Wave/Twist in Tube	☐	Instructions Incomplete/Unclear	☐
Substation ☐	☐	Process Improvement	☐	Marks/Chatter	☐	Drill Holes	☐
Past Expiry Date ☐	☐	Manufacturing Process	☐	OTHER : _____ _____			
Misidentified ☐	☐	Past Due	☐				

Picklist Print

Page 1

Thursday, September 24, 2015 1:30:00 PM

Work Order ID: 137296

137296

Parent Item: D407-558-045

D407-558-045

Parent Item Name: Single Mirror Installation

Start Date: 9/18/15

Required Date: 9/23/15

Start Qty: 1.00

Required Qty: 1.00

Comments: IPP Rev:A 09-01-15 new issue DD verified by:ec IPP Rev:B
10.06.17 added grommet DD verf:EC IPP REV:C 11.01.19 AS
PER chg002 DD VERF:EC IPP REV:D 12.04.04 AS PER
chg003 DD VERF:EC

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
AN3-4A		Purchased	No			125	Each	198.0000	4	4			
AN3-4A									**				
Bolt	DAS 02 9-89											DAS 03 9-89	AS 27 9-89
				<u>Location</u>				<u>Loc Qty</u>		<u>Loc Code</u>			
				ST338a				100					
				m133234				100					
				ST350				98					
				m129682				88					
				m132317				5					
				m133064				5					
AN526-1032R9		Purchased	No			125	Each	95.0000	4	4			
AN526-1032R9									**				
Screw	DAS 02 9-89											OCT 07 2015	DAS 03 9-89
				<u>Location</u>				<u>Loc Qty</u>		<u>Loc Code</u>			
				ST326				95					
				m131139				95					
D2011-101		Manufactured	No			110	Each	28.0000	1	1			
D2011-101									**				
Mirror 6"												OCT 06 2015	DAS 6 9-89
				<u>Location</u>				<u>Loc Qty</u>		<u>Loc Code</u>			
				FG				2					
				106348				2					
				ST384				26					
				122000				13					
				135152				13					

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐					
Date :		Step #:		QTY Effective :			MRB (QSI042) Approval Completed By Lead hand / Supervisor Approval Verification QC / QA Coordinator Approval		
Description Work Order Deviation				Disposition					

Root Cause				FAULT CATEGORY							
Environment	☐	No Re-verification	☐	Pressure/Forced	☐	Temperature/Cure	☐	Power Loss/Surge	☐	Positioned Wrong	☐
Design	☐	Operator	☐	Bending	☐	Set-up	☐	Folio/Program	☐	Outside Dimensions	☐
Doc/Data	☐	Offset/Setup	☐	Centre Not Concentric	☐	BOM/Route	☐	Grain	☐	Over/Under tolerance	☐
Equip/Tooling	☐	Supplier	☐	Cracks	☐	Broken/Damage/Defect	☐	Weld	☐	Part Incorrect	☐
Handling/Pre	☐	Training	☐	Crimp/Kink/Ripple/Wave	☐	Inspection Incomplete/Unqualified	☐	Wrong Stock Pulled	☐	Part Lost/Missing	☐
Material	☐	Use for Testing	☐	Cuffs	☐	Contamination	☐	Out of Sequence	☐	Part Moved	☐
Internal Transport	☐	Poor Information	☐	Crushing	☐	Countersink	☐	Off-set	☐	Drawing	☐
Tribal Knowledge	☐	Rushing	☐	Heat Treat	☐	Cut Too Short	☐	Mislabeled	☐	Finish	☐
LOA	☐	Product Improvement	☐	Wave/Twist in Tube	☐	Instructions Incomplete/Unclear	☐	Fit/Function	☐	Misread	☐
Substation	☐	Process Improvement	☐	Marks/Chatter	☐	Drill Holes	☐	Misaligned/off center	☐	Turning Sequence	☐
Past Expiry Date	☐	Manufacturing Process	☐	OTHER : _____							
Misidentified	☐	Past Due	☐								

Picklist Print

Page 2

Thursday, September 24, 2015 1:30:00 PM

Work Order ID: 137296

137296

Parent Item: D407-558-045

D407-558-045

Parent Item Name: Single Mirror Installation

Start Date: 9/18/15

Required Date: 9/23/15

Start Qty: 1.00

Required Qty: 1.00

D2052 Manufactured No 110 Each 25.0000 2 2

D2052

Bracket

**

FF

OCT 06 2015

Location	Loc Qty	Loc Code
GA	25	

108808

25

2

D2053 Manufactured No 125 Each 28.0000 1 1

D2053

Bracket

**

OCT 07 2015

DAS

27

8-89

Location	Loc Qty	Loc Code
ST002	12	

101704

12

ST012a

16

108842

16

D2054 Manufactured No 110 Each 41.0000 2 2

D2054

Bushing - Delrin

**

FF

OCT 06 2015

Location	Loc Qty	Loc Code
GA	41	

109091

41

D2055 Manufactured No 110 Each 29.0000 1 1

D2055

Clamp

**

FF

OCT 06 2015

Location	Loc Qty	Loc Code
GA	29	

105730

20

92691

1

95397

8

Thursday, September 24, 2015 1:30:00 PM

Shop Packet Print

Page 2

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐					
Date :		Step #:		QTY Effective :			MRB (QSI042) Approval Completed By Lead hand / Supervisor Approval Verification QC / QA Coordinator Approval		
Description Work Order Deviation				Disposition					

Root Cause				FAULT CATEGORY			
Environment ☐	☐	No Re-verification	☐	Pressure/Forced	☐	Temperature/Cure	☐
Design ☐	☐	Operator	☐	Bending	☐	Set-up	☐
Doc/Data ☐	☐	Offset/Setup	☐	Centre Not Concentric	☐	BOM/Route	☐
Equip/Tooling ☐	☐	Supplier	☐	Cracks	☐	Broken/Damage/Defect	☐
Handling/Pre ☐	☐	Training	☐	Crimp/Kink/Ripple/Wave	☐	Inspection Incomplete/Unqualified	☐
Material ☐	☐	Use for Testing	☐	Cuffs	☐	Contamination	☐
Internal Transport ☐	☐	Poor Information	☐	Crushing	☐	Countersink	☐
Tribal Knowledge ☐	☐	Rushing	☐	Heat Treat	☐	Cut Too Short	☐
LOA ☐	☐	Product Improvement	☐	Wave/Twist in Tube	☐	Instructions Incomplete/Unclear	☐
Substation ☐	☐	Process Improvement	☐	Marks/Chatter	☐	Drill Holes	☐
Past Expiry Date ☐	☐	Manufacturing Process	☐	OTHER :			
Misidentified ☐	☐	Past Due	☐				

Picklist Print

Page 3

Thursday, September 24, 2015 1:30:00 PM

Work Order ID: 137296

137296

Parent Item: D407-558-045

D407-558-045

Parent Item Name: Single Mirror Installation

Start Date: 9/18/15

Required Date: 9/23/15

Start Qty: 1.00

Required Qty: 1.00

D2056 Manufactured No 110 Each 13.0000 1 1

D2056

Bell Crank Assembly

FF

OCT 06 2015

Location Loc Qty Loc Code

GA 13

109921 13

D2057 Manufactured No 110 Each 29.0000 1 1

D2057

Plug

FF

OCT 06 2015

Location Loc Qty Loc Code

GA 29

112928 29

D2065 Manufactured No 110 Each 7.0000 1 1

D2065

Mirror Arm

DAS
6
9-89

OCT 06 2015

Location Loc Qty Loc Code

ST360 7

122633 1

128472 2

132648 4

D2067 Manufactured No 125 Each 46.0000 1 1

D2067

Connector

DAS
02
9-89

DAS
C3
9-89
DAS
27
9-89

OCT 07 2015

Location Loc Qty Loc Code

ST002 46

105444 46

Thursday, September 24, 2015 1:30:00 PM

Shop Packet Print

Page 3

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐					
Date :		Step #:		QTY Effective :			MRB (QSI042) Approval Completed By Lead hand / Supervisor Approval Verification QC / QA Coordinator Approval		
Description Work Order Deviation				Disposition					
Root Cause Environment ☐ Design ☐ Doc/Data ☐ Equip/Tooling ☐ Handling/Pre ☐ Material ☐ Internal Transport ☐ Tribal Knowledge ☐ LOA ☐ Substation ☐ Past Expiry Date ☐ Misidentified ☐ No Re-verification ☐ Operator ☐ Offset/Setup ☐ Supplier ☐ Training ☐ Use for Testing ☐ Poor Information ☐ Rushing ☐ Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due ☐		FAULT CATEGORY Pressure/Forced ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter ☐ Temperature/Cure ☐ Set-up ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes ☐ Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Misabeled ☐ Fit/Function ☐ Misaligned/off center ☐ Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence ☐		OTHER : ☐					

Picklist Print

Thursday, September 24, 2015 1:30:00 PM

Page 4

Work Order ID: 137296

137296

Parent Item: D407-558-045

D407-558-045

Parent Item Name: Single Mirror Installation

Start Date: 9/18/15

Required Date: 9/23/15

Start Qty: 1.00

Required Qty: 1.00

D2071-5 Manufactured No

125 Each 12.0000 1 1

D2071-5

Cable

DAS
02
9-89

**

DAS

27

9-89

OCT 07 2015

Location

Loc Qty

Loc Code

ST216

12

107092

2

112929

10

D3778-3 Manufactured No

110 Each 9.0000 1 1

D3778-3

Bracket

DAS
02
9-89

**

DAS

6

9-89

27

9-89

OCT 06 2015

Location

Loc Qty

Loc Code

ST513

9

107023

1

113715

8

MS21042L3 Purchased No

110 Each 1,000.000 2 2

MS21042L3

Nut

**

FF

OCT 06 2015

Location

Loc Qty

Loc Code

FP001

334

M130922

334

GA

177

M131317

177

2

ST305

489

116549

12

126333

49

M128754

2

M132123

17

M132382

2

M132883

17

M132930

1

M133134

389

Thursday, September 24, 2015 1:30:00 PM

Shop Packet Print

Page 4

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐					
Date :		Step #:		QTY Effective :			MRB (QSI042) Approval Completed By Lead hand / Supervisor Approval Verification QC / QA Coordinator Approval		
Description Work Order Deviation				Disposition					
Root Cause Environment ☐ Design ☐ Doc/Data ☐ Equip/Tooling ☐ Handling/Pre ☐ Material ☐ Internal Transport ☐ Tribal Knowledge ☐ LOA ☐ Substation ☐ Past Expiry Date ☐ Misidentified ☐ No Re-verification ☐ Operator ☐ Offset/Setup ☐ Supplier ☐ Training ☐ Use for Testing ☐ Poor Information ☐ Rushing ☐ Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due ☐		FAULT CATEGORY Pressure/Forced ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter ☐ Temperature/Cure ☐ Set-up ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes ☐		Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Misabeled ☐ Fit/Function ☐ Misaligned/off center ☐ Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence ☐					
		OTHER : ☐							

Picklist Print

Page 5

Thursday, September 24, 2015 1:30:00 PM

Work Order ID: 137296

137296

Parent Item: D407-558-045

D407-558-045

Parent Item Name: Single Mirror Installation

Start Date: 9/18/15

Required Date: 9/23/15

Start Qty: 1.00

Required Qty: 1.00

MS21042L3

Purchased

No

125

Each

1,000.000

1

1

MS21042L3

Nut

DAS
02
9-89

Location

Loc Qty

Loc Code

FP001

334

M130922

334

GA

177

M131317

177

ST305

489

116549

12

126333

49

M128754

2

M132123

17

M132382

2

M132883

17

M132930

1

M133134

389

**

DAS
CS
9-89 27
9-89

MS21919-DG5

Purchased

No

125

Each

25.0000

2

2

MS21919-DG5

Clamp

DAS
02
9-89

Location

Loc Qty

Loc Code

ST297

25

m128813

5

m129499

20

**

DAS
CS
9-89 27
9-89

OCT 9 7 2015

Thursday, September 24, 2015 1:30:00 PM

Shop Packet Print

Page 5

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐					
Date : *		Step #:		QTY Effective :			MRB (QSI042) Approval		
Description Work Order Deviation				Disposition				Completed By	
								Lead hand / Supervisor Approval Verification	
								QC / QA Coordinator Approval	
Root Cause		FAULT CATEGORY							
Environment ☐	No Re-verification ☐	Pressure/Forced ☐	Temperature/Cure ☐	Power Loss/Surge ☐	Positioned Wrong ☐				
Design ☐	Operator ☐	Bending ☐	Set-up ☐	Folio/Program ☐	Outside Dimensions ☐				
Doc/Data ☐	Offset/Setup ☐	Centre Not Concentric ☐	BOM/Route ☐	Grain ☐	Over/Under tolerance ☐				
Equip/Tooling ☐	Supplier ☐	Cracks ☐	Broken/Damage/Defect ☐	Weld ☐	Part Incorrect ☐				
Handling/Pre ☐	Training ☐	Crimp/Kink/Ripple/Wave ☐	Inspection Incomplete/Unqualified ☐	Wrong Stock Pulled ☐	Part Lost/Missing ☐				
Material ☐	Use for Testing ☐	Cuffs ☐	Contamination ☐	Out of Sequence ☐	Part Moved ☐				
Internal Transport ☐	Poor Information ☐	Crushing ☐	Countersink ☐	Off-set ☐	Drawing ☐				
Tribal Knowledge ☐	Rushing ☐	Heat Treat ☐	Cut Too Short ☐	Mislabeled ☐	Finish ☐				
LOA ☐	Product Improvement ☐	Wave/Twist in Tube ☐	Instructions Incomplete/Unclear ☐	Fit/Function ☐	Misread ☐				
Substation ☐	Process Improvement ☐	Marks/Chatter ☐	Drill Holes ☐	Misaligned/off center ☐	Turning Sequence ☐				
Past Expiry Date ☐	Manufacturing Process ☐	OTHER :							
Misidentified ☐	Past Due ☐								

Picklist Print

Thursday, September 24, 2015 1:30:00 PM

Work Order ID: 137296

137296

Parent Item: D407-558-045

D407-558-045

Parent Item Name: Single Mirror Installation

Start Date: 9/18/15

Required Date: 9/23/15

Start Qty: 1.00

Required Qty: 1.00

MS27039-1-18

Purchased

No

110

Each

1,870.000

2

2

MS27039-1-18

FF

OCT 06 2015

Screw

Location

Loc Qty

Loc Code

GA

270

123522

70

124326

200

ST273A

1373

124326

1373

ST284

227

124326

227

MS35489-67

Purchased

No

Each

60.0000

1

MS35489-67

GROMMET

DAS
02
9-89

Location

Loc Qty

Loc Code

ST274

60

121600

60

MS35489-9

Purchased

No

Each

16.0000

1

MS35489-9

Grommet

DAS
02
9-89

Location

Loc Qty

Loc Code

ST275

16

107376

1

m132262

15

DAS

27

9-89

OCT 06 2015

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐					
Date :		Step #:		QTY Effective :			MRB (QSI042) Approval Completed By Lead hand / Supervisor Approval Verification QC / QA Coordinator Approval		
Description Work Order Deviation				Disposition					

Root Cause				FAULT CATEGORY			
Environment	☐	No Re-verification	☐	Pressure/Forced	☐	Temperature/Cure	☐
Design	☐	Operator	☐	Bending	☐	Set-up	☐
Doc/Data	☐	Offset/Setup	☐	Centre Not Concentric	☐	BOM/Route	☐
Equip/Tooling	☐	Supplier	☐	Cracks	☐	Broken/Damage/Defect	☐
Handling/Pre	☐	Training	☐	Crimp/Kink/Ripple/Wave	☐	Inspection Incomplete/Unqualified	☐
Material	☐	Use for Testing	☐	Cuffs	☐	Contamination	☐
Internal Transport	☐	Poor Information	☐	Crushing	☐	Countersink	☐
Tribal Knowledge	☐	Rushing	☐	Heat Treat	☐	Cut Too Short	☐
LOA	☐	Product Improvement	☐	Wave/Twist in Tube	☐	Instructions Incomplete/Unclear	☐
Substation	☐	Process Improvement	☐	Marks/Chatter	☐	Drill Holes	☐
Past Expiry Date	☐	Manufacturing Process	☐	OTHER :			
Misidentified	☐	Past Due	☐				

Picklist Print

Thursday, September 24, 2015 1:30:00 PM

Work Order ID: 137296

137296

Parent Item: D407-558-045

D407-558-045

Parent Item Name: Single Mirror Installation

Start Date: 9/18/15

Required Date: 9/23/15

Start Qty: 1.00

Required Qty: 1.00

NAS1149D0332J

Purchased

No

125

Each

1,775.000

6

6

NAS1149D0332.J

DAS

02

9-89

Washer

**

DAS 27 9-89
OCT 07 2015

Location

Loc Qty

Loc Code

CA

14

m129682

14

GA

430

m132677

430

ST269

1331

m130325

900

m132677

431

6

NAS1149D0363J

Purchased

No

110

Each

1,223.000

4

4

NAS1149D0363.J

**

FF OCT 06 2015

Washer

Location

Loc Qty

Loc Code

CA

246

m130799

246

GA

248

m130799

248

ST269

729

m126319

7

m131618

1

m132317

10

m132677

50

m133031

661

4

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐					
Date :		Step #:		QTY Effective :			MRB (QSI042) Approval Completed By Lead hand / Supervisor Approval Verification QC / QA Coordinator Approval		
Description Work Order Deviation				Disposition					

Root Cause				FAULT CATEGORY							
Environment	☐	No Re-verification	☐	Pressure/Forced	☐	Temperature/Cure	☐	Power Loss/Surge	☐	Positioned Wrong	☐
Design	☐	Operator	☐	Bending	☐	Set-up	☐	Folio/Program	☐	Outside Dimensions	☐
Doc/Data	☐	Offset/Setup	☐	Centre Not Concentric	☐	BOM/Route	☐	Grain	☐	Over/Under tolerance	☐
Equip/Tooling	☐	Supplier	☐	Cracks	☐	Broken/Damage/Defect	☐	Weld	☐	Part Incorrect	☐
Handling/Pre	☐	Training	☐	Crimp/Kink/Ripple/Wave	☐	Inspection Incomplete/Unqualified	☐	Wrong Stock Pulled	☐	Part Lost/Missing	☐
Material	☐	Use for Testing	☐	Cuffs	☐	Contamination	☐	Out of Sequence	☐	Part Moved	☐
Internal Transport	☐	Poor Information	☐	Crushing	☐	Countersink	☐	Off-set	☐	Drawing	☐
Tribal Knowledge	☐	Rushing	☐	Heat Treat	☐	Cut Too Short	☐	Mislabeled	☐	Finish	☐
LOA	☐	Product Improvement	☐	Wave/Twist in Tube	☐	Instructions Incomplete/Unclear	☐	Fit/Function	☐	Misread	☐
Substation	☐	Process Improvement	☐	Marks/Chatter	☐	Drill Holes	☐	Misaligned/off center	☐	Turning Sequence	☐
Past Expiry Date	☐	Manufacturing Process	☐	OTHER :							
Misidentified	☐	Past Due	☐								

DAS
02

4.0 WEIGHT AND BALANCE 9-89

Installation	Weight	LATERAL		LONGITUDINAL	
		Arm	Moment	Arm	Moment
D206-558-041	2.4 lb	+5.0 in	+12.0 in-lb	+14.8 in	+35.5 in-lb
Bell 206A/B/L/L1/L3/L4	1.09 Kg	+0.13 m	+0.14 m-Kg	+0.38 m	+0.41 m-Kg
D206-558-043	3.0 lb	0.0 in	0.0 in-lb	+14.8 in	+44.4 in-lb
Bell 206A/B/L/L1/L3/L4	1.36 Kg	0.0 m	0.0 m-Kg	+0.38 m	+0.52 m-Kg
D407-558-045	2.4 lb	+5.0 in	+12.0 in-lb	+14.8 in	+35.5 in-lb
Bell 407	1.09 Kg	+0.13 m	+0.14 m-Kg	+0.38 m	+0.41 m-Kg
D407-558-047	3.0 lb	0.0 in	0.0 in-lb	+14.8 in	+44.4 in-lb
Bell 407	1.36 Kg	0.0 m	0.0 m-Kg	+0.38 m	+0.52 m-Kg

5.0 PARTS LIST

Qty -041	Qty -043	Qty -045	Qty -047	Part Number	Description
X				D206-558-041	SINGLE CARGO MIRROR ASSEMBLY
	X			D206-558-043	DUAL CARGO MIRROR ASSEMBLY
		X		D407-558-045	SINGLE CARGO MIRROR ASSEMBLY
			X	D407-558-047	DUAL CARGO MIRROR ASSEMBLY
1	2	1	2	D2011-101	MIRROR ASSEMBLY
2	2	2	2	D2052**	BRACKET
1	1	1	1	D2053	BRACKET
2	2	2	2	D2054**	BUSHING
1	1	1	1	D2055**	CLAMP
1	1	1	1	D2056**	BELLCRANK ASSEMBLY
1		1		D2057	PLUG
1		1		D2065	ARM
	1		1	D2066	ARM
1	1	1	1	D2067	CONNECTOR
1	1			D2071	CABLE ASSEMBLY
		1	1	D2071-5	CABLE ASSEMBLY
1	2	1	2	D3014-1*	LOCKNUT
1	1			D3778-1	BRACKET
		1	1	D3778-3	BRACKET
4	4	4	4	AN3-4A	BOLT
4	4	4	4	AN526-1032R9	SCREW
1	2	1	2	NAS1149D0416P*	WASHER (AN960JD416L)
4	4	4	4	NAS1149D0363P**	WASHER (AN960JD10)
6	6	6	6	NAS1149D0332P	WASHER (AN960JD10L)
3	1	3	1	MS21042-3	NUT (or MS21042L3)
	2		2	MS21042-3**	NUT (or MS21042L3)
2	2	2	2	MS21919DG5	CLAMP
2	2	2	2	MS27039-1-18**	SCREW
1	1	1	1	MS35489-9	GROMMET
1	1	1	1	MS35489-67	GROMMET

* INCLUDED AS PART OF D2011-101 MIRROR ASSEMBLY

** INCLUDED AS PART OF D2066 ARM (REF. -043/-047 ONLY)